Futures Contracts Market

with the underlying asset natural gas

Romanian Commodities Exchange

Bucharest – November 12-13, 2020

SUMMARY

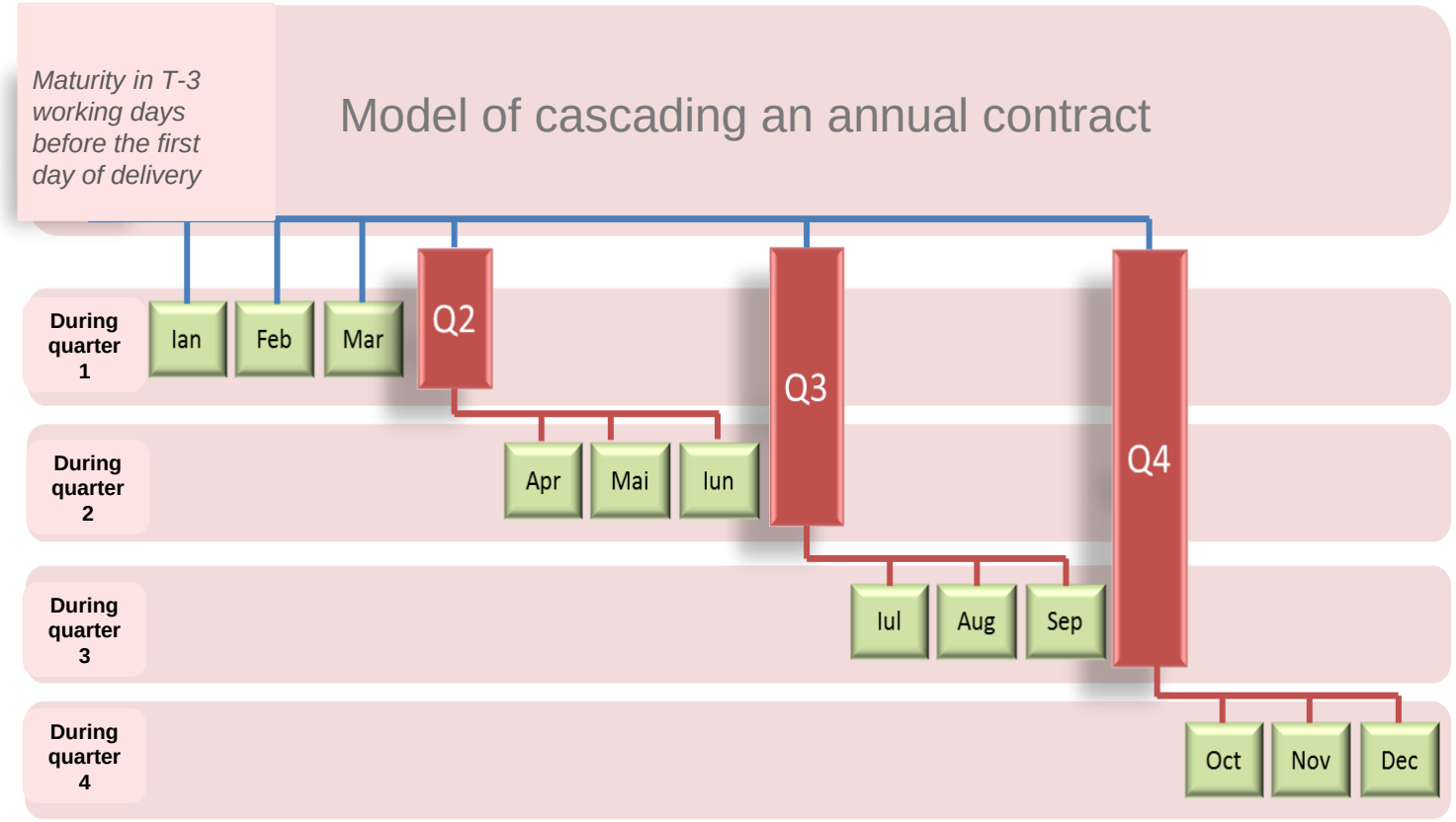
1. Futures
- contracts available after the delivery period

Month	Quarter	Gas season	Calendar year
3 consecutive months	4 consecutive quarters	2 consecutive seasons	1 year

Key aspects:

- **10 contracts will be available for trading simultaneously**
- **the expiration date (maturity) of a monthly contract is** in T-2 working days before the first day of delivery (T = the first day of delivery)
- **the expiration date (maturity) of a contract longer than one month** is in T-3 working days before the first day of delivery (T = the first day of delivery)
- **the date for the launch of trading of a contract** is the working day following the maturity of a contract with a similar delivery period.

. 1. Futures contract
- cascading contracts



Contracts with longer maturities will cascade to month level!

1. Futures contract - key features

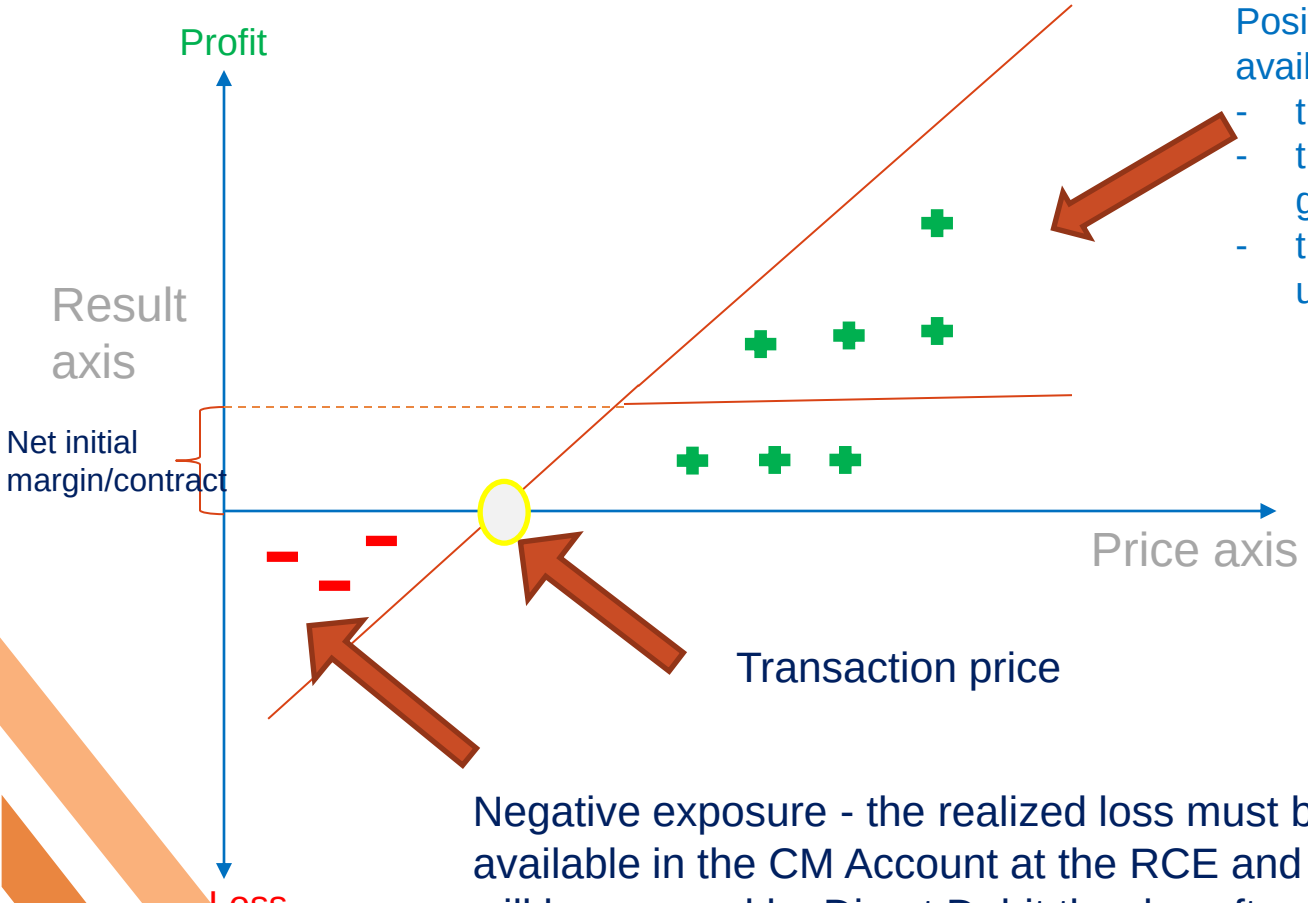
Final settlement method	Size of contracts	Post trading	Final settlement price
By physical delivery for the seller and takeover / payment for the buyer	• 1MWh/day * no. of days in the delivery period	Through the RCE as Central Counterparty	The daily settlement price on the maturity date

Key aspects:

- **The expiration date (maturity) of a monthly contract** is in T-2 working days before the first day of delivery (T = the first day of delivery)
- **The expiration date (maturity) of a contract longer than one month** is in T-3 working days before the first day of delivery (T = the first day of delivery)
- **The date for the launch of trading of a contract** is the working day following the maturity of a contract with a similar delivery period.

. 1. Futures contract – daily marking to market

Example for the buyer



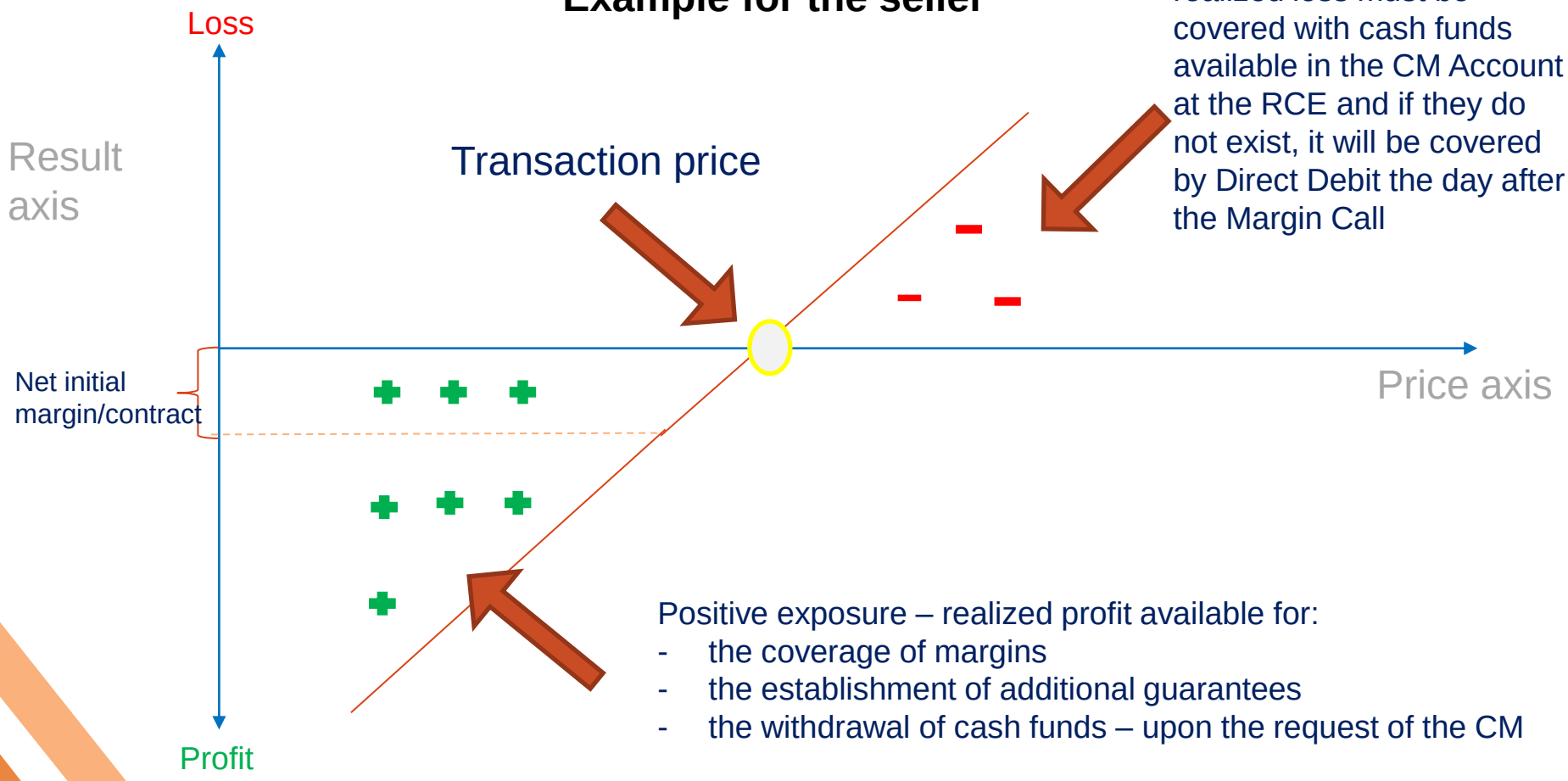
Positive exposure - realized profit available for:

- the coverage of margins
- the establishment of additional guarantees
- the withdrawal of cash funds – upon the request of the CM

Negative exposure - the realized loss must be covered with funds available in the CM Account at the RCE and if they do not exist, it will be covered by Direct Debit the day after the Margin Call

. 1. Futures contract – daily marking to market

Example for the seller



Negative exposure - the realized loss must be covered with cash funds available in the CM Account at the RCE and if they do not exist, it will be covered by Direct Debit the day after the Margin Call

Positive exposure – realized profit available for:

- the coverage of margins
- the establishment of additional guarantees
- the withdrawal of cash funds – upon the request of the CM

. 1. Futures contract
- daily marking to market based on the Daily Settlement Price

Features of the calculation of the Daily Settlement Price - *detailed by Instruction no. 7 that is the annex to the Counterparty Regulation*	
Applicability	Every working day when a contract is in trading, except when no transaction has previously been recorded on that contract or positions on that contract have not arisen from the cascade of other contracts with longer maturities.
Standard calculation method	**Weighted average of 70% of the transactions and 30% of the spread order quotation** of the that day, *in case that transactions and also order quotations that satisfy the specific calculation conditions are also recorded,* ***or***
	Weighted average of current day transactions, *if transactions are recorded and there are no order quotations that satisfy the specific conditions for calculating the spread quotation,* ***or***
	Spread order quotation *if no transactions are registered and there are order quotations that satisfy the specific conditions for calculating the spread quotation,* ***or***
	The Daily Settlement Price from the previous day *if no transactions are registered and there are no order quotations that satisfy the specific conditions for calculating the spread quotation.*
Exceptional calculation method	If **the Daily Settlement Price of the current day registers a deviation of over 5% compared to that of the previous day** or of the weighted average price of the forward market, it will be adjusted by the RCE with the notification of the entire market.

. 1. Futures contract
Spread quotation from orders and the role of Market Makers

Market Makers on futures contracts market:

- *support the liquidity of the market by maintaining bid / ask quotes*
- *contribute to the establishment of a daily price reference*
- *earn from the trading activity as liquidity providers on purchase and sale*
- *benefit from specific conditions as a result of concluding the Market Maker agreement with the stock exchange*

Conditions for validating the spread quotation in the calculation formula of the Daily Settlement Price

Type of Contract	Minimum duration*	Maximum spread**	Minimum quantity***
Month type contract	60%	2 RON	10 contracts
Quarter contract	60%	3 RON	10 contracts
Gas season contract	50%	4 RON	5 contracts
Calendar year contract	50%	4 RON	5 contracts

where,

* ***Minimum duration*** = value expressed as percentage in a trading session during which the conditions of maximum spread and minimum quantity are observed cumulatively.

** ***Maximum spread*** = numerical value expressed in RON representing the maximum difference between the price of the purchase orders and sale orders, which will be taken into account in the calculation of the Spread Quotation

*** ***Minimum quantity*** = numerical value expressed in Number of Contracts representing the minimum number of purchase contracts and sale contracts, which will be taken into account in the calculation of the Spread Quotation

. 1. Futures contract
- marking to maturity based on the Final Settlement Price

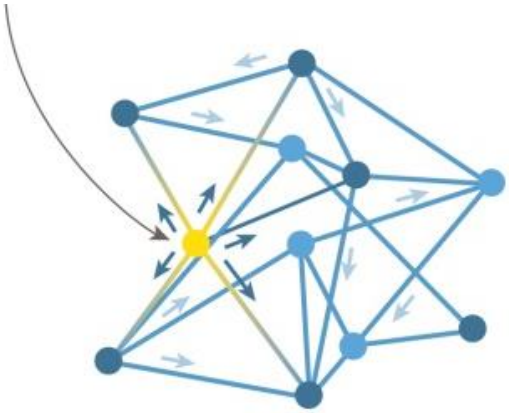
Features of the calculation method for the Final Settlement Price – *Detailed in the Instruction no. 8 that is an annex to the Regulation of the Counterparty*	
Applicability	At the maturity of a contract with delivery period the month is applied for the calculation of the daily payments and receipts due in the delivery month **based on the net position of a CM.**
Standard calculation method	**Daily Settlement Price determined at maturity if it is in +/- 1.5% deviation** from the Daily Settlement Price from the day before. *If the Daily Settlement Price determined at maturity is not in +/- 1.5% deviation, an additional auction session is initiated and then it is calculated as:*
	Weighted average of 70% of the Daily Settlement Price determined at maturity and 30% of the Price of the auction session on the maturity day.
Exceptional calculation method	At the end of the trading session on the Maturity Day, the RCE may initiate an additional consultation session of the CM regarding the price resulting from the standard calculation in case the price continues to register a significant deviation from the Daily Settlement Price of the day before. If the RCE validates the price resulted from the consultation then **the Final Settlement Price will be the weighted average of 70% of the price calculated with standard methods and 30% of the Phe price resulting from the CM consultation**

2. Guarantee and settlement method

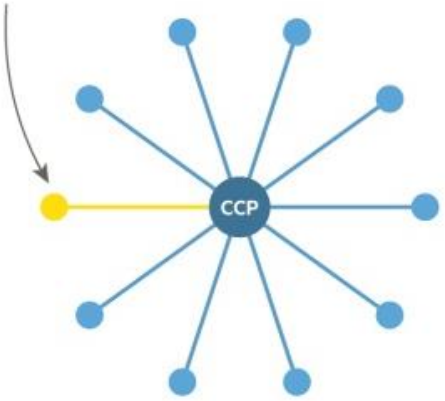
Key aspects:

- **Default management performed by the Counterparty RCE**
- **Elimination of risk assessments** for partners
- **Central Counterparty - guarantor** of the fulfilment of contractual obligations
- **Anonymous trading on standardized contracts**
- **Application of the margin system for the guarantee of the CM**
- **Availability of the Guarantee Fund funded by the RCE**

The default on a bilateral market



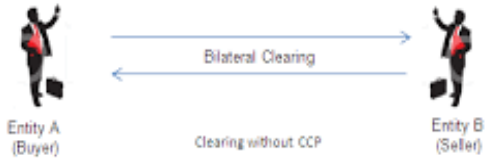
The default on a market with counterparty



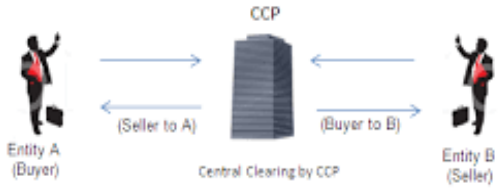
2. Guarantee and settlement method

Key aspects:

- **The operation of a central counterparty involves taking over the financial price risk from a contractual position, part of a transaction and replacing it when necessary.**
- ***If a buyer A would no longer fulfil the obligation to buy in delivery then the Counterparty should have sufficient resources to PAY the full transaction price in delivery to the seller. Solution: it sells on behalf of A!***

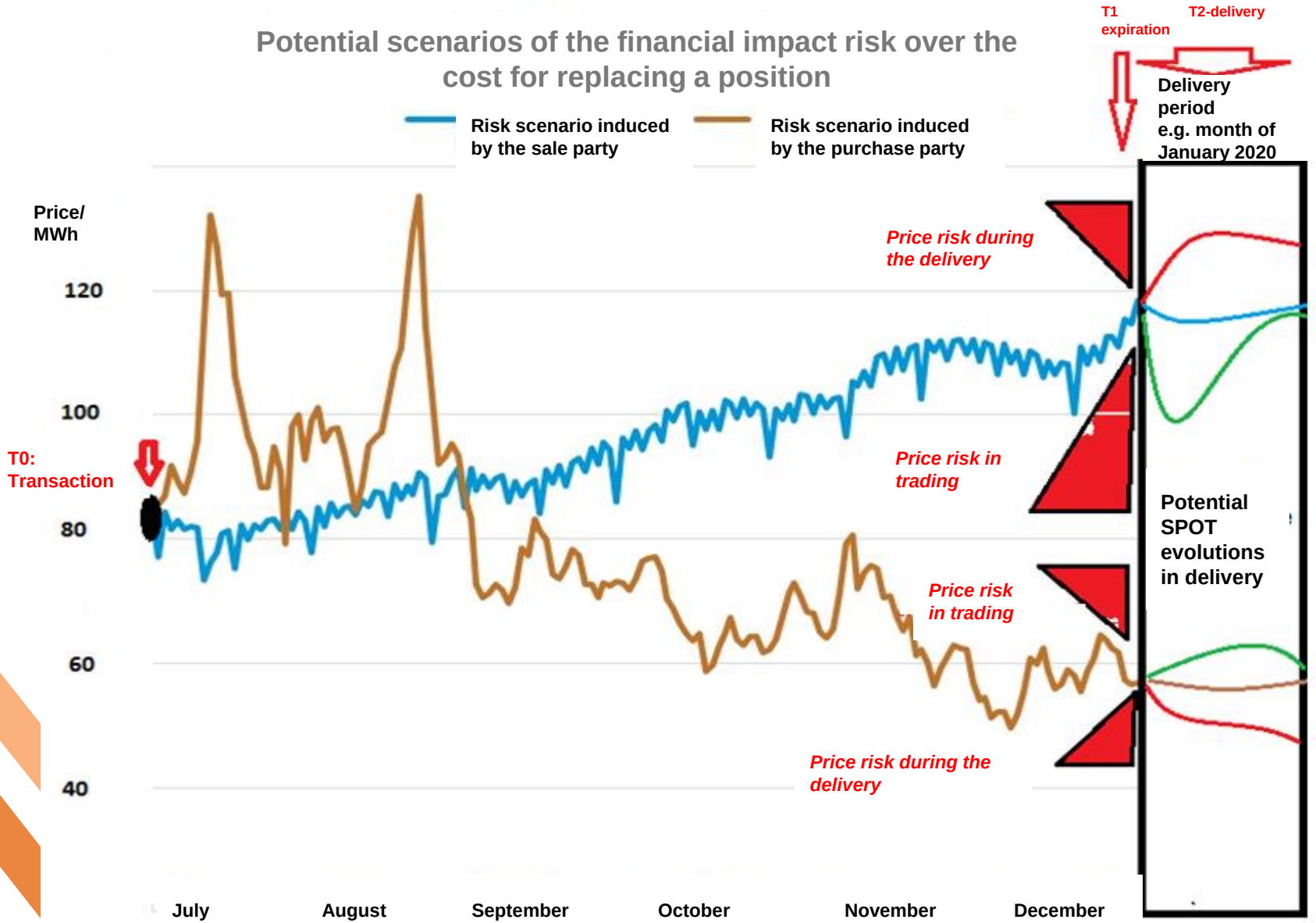


- ***If a seller B would no longer fulfil the obligation delivery then the Counterparty should have sufficient resources to PAY the price differences for the delivery of the position. Solution: It buys n behalf of B!***



- **The standard method to have sufficient financial resources is to manage the daily price risk on the respective contract by tracking prices and marking positions in order to maintain a balanced exposure in terms of a future compliant execution of the transaction in the contract delivery period.**

2. Guarantee and settlement method



2. Guarantee and settlement method

In order to ensure the role of counterparty, it is necessary to use an appropriate risk management system by implementing a margin system.

Guarantee in the trading period

- **Initial margin on the contract** = *insurance role for future potential exposures. It can be guaranteed with LBG or cash funds*
- **Margin of variation (profit / loss)** = *role of adjusting the daily exposures by marking the positions to the market price. It is managed only in cash funds.*

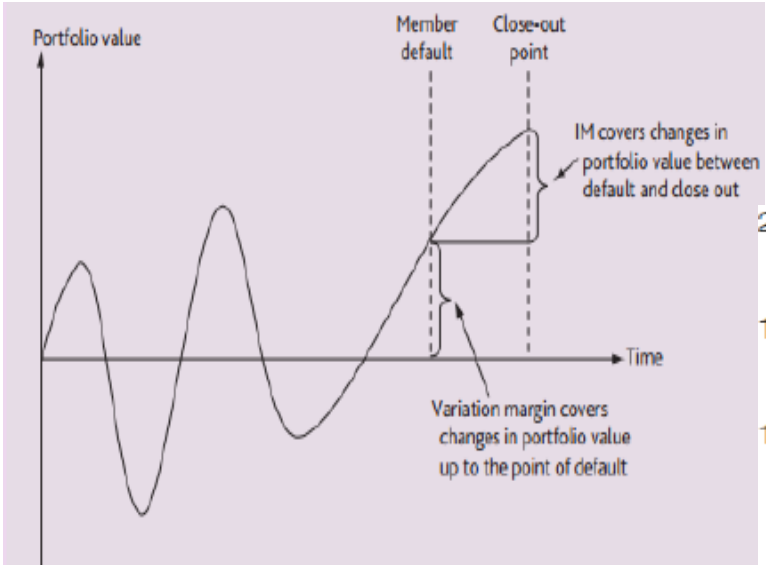
Guarantee in the delivery period

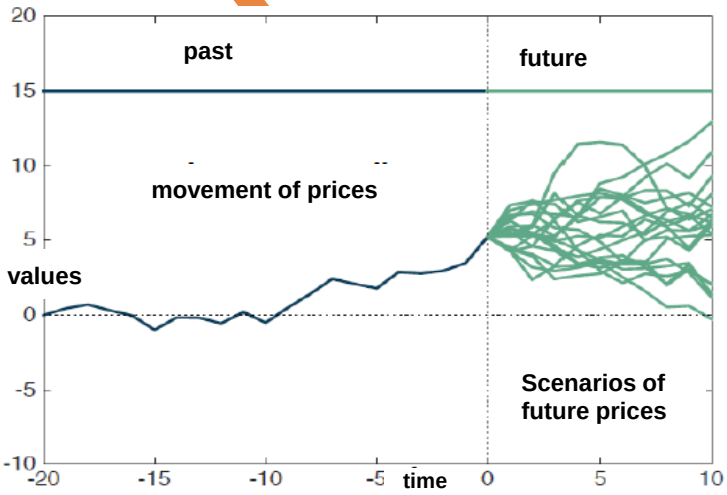
- **Physical delivery margin** = *insurance role against unfavourable price differences in the delivery period by substituting the variation margin. It can be guaranteed by LBG or cash funds*

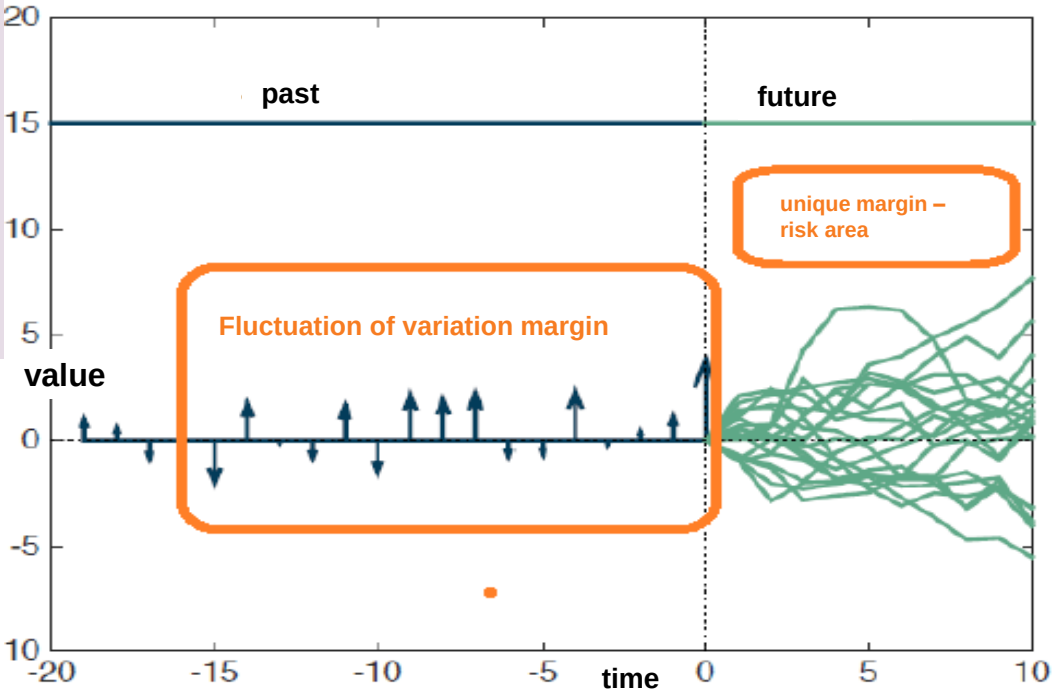
2. Guarantee and settlement method

Initial margin and variation margin

graphic modelling examples







2. Guarantee and settlement method

Initial margin – fixed value and price correlation

Type of contract	Volatility risk	Initial margin/Contract
Month	10.00%	180 LEI
Quarter I and Quarter IV	7.00%	450 LEI
Quarter II and Quarter III	5.00%	270 LEI
Cold gas season (Oct-Mar)	7.00%	900 LEI
Warm gas season (Apr-Sep)	5.00%	540 LEI
Calendar year	5.00%	1.320 LEI

The margin level is calculated for an average price of 60 lei/MWh

2. Guarantee and settlement method

Variation margin:

The Settlement of Profits and Losses is made on a daily basis as a result of the transactions and the Settlement Price: *Daily Settlement Price and at maturity, Final Settlement Price*

Example 1: A participant (the CM X) buys on day T a contract the month of December 2020 for 60 RON. At the end of the day, the Daily Settlement Price is 61 RON. The CM X will register a profit of 1 RON (61-60) * 31 MWh (the contract size), therefore, 31 RON.

Example 2: A participant (the CM X) buys on day T a contract the month of December 2020 for 60 RON and sells 1 contract for 62 RON. At the end of the day, the Daily Settlement Price is 61 RON. The CM X will register a profit of 2 RON (62-60) * 31 MWh (the contract size), therefore 62 RON. The calculation method with **the Daily Price leads to the same result: profit from the purchase position of 1 RON (61-60)*31 + profit from the sale position of 1 RON (62-61)*31.**

Example 3: A participant (the CM X) buys on day T a contract the month of December 2020 for 60 RON. At the end of the day, the Daily Settlement Price is 61 RON. The CM X will register a profit of 1 RON (61-60) * 31 MWh (the contract size), therefore 31 RON. On day T+1 the Daily Price will be 58 RON. On day T+1 the CM will register loss of 3 RON (58-61) *31 = 93 RON, **In total, the loss is 62 lei for the respective contract, regardless of whether it is highlighted daily or if it is calculated as the final settlement price reported to the transaction price.**

2. Guarantee and settlement method

Variation margin – mode of operation at the expiration of the contract

Example 4: A participant (the CM X) buys on day T a contract the month of December 2020 for the price of 60 RON. At maturity, the Final Settlement Price is 71 RON. The CM X will register a profit of 11 RON (71-60) * 31 MWh (the size of the contract), therefore 341 lei. **The profit remains final for the contract the month of December.**

Example 5: A participant (the CM X) buys on day T a contract the Quarter 1 of the year 2021 for the price of 60 RON. At maturity, the open position is distributed on the contracts for January, February and March 2021. The Final Settlement Price for January is 71 RON, for February it is 72 RON and for March it is 55 RON. The CM X will register the following result after the transaction:

- Profit for January (71-60) *31 = 341 RON
- Profit for February (72-60) *28 = 336 RON
- Loss for March (55-60)*31= -155
- The final result as a result of the transaction and prices is + 522 RON

2. Guarantee and settlement method

Physical delivery margin – General features

- it will be charged **for the net positions / contract that come into delivery either for purchase or for sale**
- **it is issued daily on a pro rata basis during the delivery month**
- **Represents a value equal to 2 *Initial Margin / net position entered in delivery**

Example 1: A participant (the CM X) registers at maturity 10 net buying positions for February 2021. The initial margin is 10 * 180 RON = 1800 RON. The delivery margin requested by the Counterparty on January 28, 2021 is 2*1800 = 3600 RON,

Example 2: A participant (the CM X) registers at maturity 0 net positions from February 2021. The initial margin is 0*180 RON = 0 RON. The delivery margin requested by the Counterparty on January 28, 2021 is 0 RON.

2. Guarantee and settlement method

Settlement applicable to trading contracts:

- ✓ **The opposite direction positions on a contract are settled in order to determine the Initial Margin / Contract.**
- ✓ **The profit / loss per contract is settled at the level of the CM Account resulting in a daily settlement of payment or collection type.**

Settlement applicable to contracts entered into delivery:

- ✓ **The settlement of payments / receipts is made at the Net Position entered in the delivery period. Thus, within a month of delivery, a CM will register daily either payment or collection with the Counterparty.**

2. Guarantee and settlement method

Final settlement in the delivery period

- **Payments are staggered daily in equal instalments for one month of delivery**
- **Payments and receipts are made at the Final Settlement Price**
- **Payments and receipts are made by the Net Position entered into delivery**

Example 1: A participant (the CM X) registers at maturity 10 net purchase positions for February 2021. The final settlement price is 75 RON/MWh. The total amount to be paid is 75*10*28 = 21.000 RON. The daily amount to be Debited Directly by the Counterparty is 750 RON.

Example 2: A participant (the CM X) registers at maturity 5 net sale positions for February 2021. The final settlement price is 75 RON/MWh. The total amount to be received is 75*5*28 = 10.500 RON. The daily amount to be paid by the Counterparty is 375 RON.

3. Regulations and procedures of the RCE

The regulatory structure consists of:

1. THE PROCEDURE FOR TRADING FUTURES CONTRACTS WITH THE UNDERLYING ASSET NATURAL GAS ON THE MARKET MANAGED BY THE ROMANIAN COMMODITIES EXCHANGE S.A., WITH THE ANNEXES:

1. Futures contracts - specifications
2. Clearing Member Acceptance Agreement

2. REGULATION FOR THE CLEARING, SETTLEMENT AND MANAGEMENT OF RISK FOR FUTURES CONTRACTS WITH THE UNDERLYING ASSET NATURAL GAS, WITH THE INSTRUCTIONS:

1. Instructions on **Guarantees to cover financial risks**
2. Instructions on establishing **the Daily Schedule**
3. Instructions on establishing **the Tariffs related to the Services**
4. Instructions on determining **the Initial Margin Values**
5. Instructions on the **Physical Delivery Margin**
6. Instructions on the elements of **the Daily Account Structure and the reports provided by the RCE to the CM**
7. Instructions on **the Daily Settlement Price**
8. Instructions on **the Final Settlement Price**

3. OTHER DOCUMENTS: AFFILIATED MEMBER CONTRACT, LBG MODEL, POWER OF ATTORNEY, PARTICIPATION CONVENTION TO THE MARKET, DIRECT DEBIT MANDATE

4. Comparisons between futures contracts and forward contracts

Main similarities on the RCE markets between the futures contract and the forward contract of the type standard *product*:

- Derivative contracts with identical underlying asset (natural gas with delivery to the VTP - Romania)
- Similar contract size - with flat profile delivery (1 MWh/day)
- Standard delivery period (months, quarters, semesters and years)
- Risk management tools
- Access grated only to participants active on the physical market - without financial participants
- Fixed transaction price and quantity of deliverables
- Benefits from the services of the RCE as counterparty with a guarantee fund of 3 million Euros. *In the case of forward contracts, there is either the market with the Counterparty or the option to transfer to the Counterparty from the main forward market.*

4. Comparisons between futures contracts and forward contracts

Differences

Futures – RERA Non Standard product	Forward – RERA standard product
Daily settlement of profit / loss based on the Daily Settlement Price	Settlement during the delivery period
Marking to market of the profit and loss with cash funds	Marking to market of exposures with cash and non-cash guarantees
Anonymous trading / post trading based on the specifications of futures contracts	Bilateral contracts are used at market level: RERA, RCE STANDARD, PRE-AGREED, etc.
Specific stock exchange contract on multilateral trading system through CCP	Traditionally, of the OTC type. *As an exception of the centralized market, it is assimilated to standard stock exchange instruments*
Financial netting of settlements during delivery periods per net position	Gross settlement on delivery
Complete tool for trading, hedging and speculation	Partial risk management tool - *without the possibility of settling the actual differences between the transaction price and the future market price*

5. Costs

1. The tariffs charged by the Central Counterparty are:

- membership fee in the amount of 1000 RON: suspended until January 2022

2. The commissions charged by the Central Counterparty are:

- commissions for clearing transactions: 0.04 RON/MWh

3. Participation to the guarantee fund funded by the RCE

- **suspended until January 2022**

4. REMIT reports through the RCE

- **according to the current policy on the rest of the platforms**

5. Bank commissions:

- According to bank rates

6. Advantages of futures contracts

1. Eliminate the counterparty risk specific to bilateral contracts, both financial, physical and reputational
2. Simplify the post-trading process by managing a unique relationship with a single counterparty
3. Reduce the operational and logistical costs of the company regarding the management of bilateral contracts and payments
4. Use the advantage of centralizing positions by compressing the necessary guarantees as a result of the clearing offered by the central counterparty
5. Set a reference price for natural gas in Romania
6. Create the premises for increasing liquidity by homogenizing the positions held in the market, the participation of market makers and traders in increasing the depth of the market

6. Advantages of futures contract

7. Offer participants entry and exit from positions without further obligations during the delivery period for closed positions of opposite directions.
8. Ensure the correct updating of the real exposure for a participant of a position held by the daily marking to market
9. Guarantee the withdrawal of profits at the moment they are obtained by a participant, at any moment before the delivery period.
10. Can be used as a complex tool for price risk management, physical quantity management, arbitrage with similar internal and external products and even speculation.
11. Can ensure a correct management of the anticipated budgeting of a revenue and expenditure budget by establishing and fixing in advance the sale or purchase price
12. Can be used as an arbitrage / hedging tool for anticipated operations on the spot market.

Thank you for your attention!